THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte TAKASHI NAITO
and
SHIZUO ARAI

_____

Appeal No. 95-2898
Application 08/053,193[1]

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HEARD: May 7, 1998

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Before HAIRSTON, KRASS and FLEMING, ***Administrative Patent Judges***.

FLEMING, ***Administrative Patent Judge***.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 5, 10 and 11, the only claims pending in the

[1] Application for patent filed April 28, 1993.

application. Claims 2 though 4 and 6 through 9 have been canceled.

The invention is directed to a snap-fit hub for an optical disk, the nature of which is apparent from a review of representative independent claim 1, reproduced as follows:

1. An optical recording medium which is adapted to be placed on a turn table rotatable as a unit with a spindle of an optical disk apparatus to reproduce information on a disk surface with an optical beam, said optical recording medium comprising:

an optical disk which has a center hole; and

a center core which fits into said center hole of said optical disk, said center core having a bottom disk-shaped portion; a cylindrical wall extending from said bottom disk-shaped portion and a stopper ledge projecting outwardly from an outside peripheral surface of said cylindrical wall and abutting on a lower surface of said optical disk; claws formed in said wall portion which project from said outside peripheral surface of said cylindrical wall and which engage an upper surface of said optical disc so as to clamp said optical disk between said stopper ledge and said claws, and a plurality of slits formed in said cylindrical wall for defining a first wall portion and for rendering said first wall portion flexible so that said first wall portion is elastically displaced radially inwards to a deformed position to allow said center core to be attached to said optical disk by passing said cylindrical wall and said claws through said center hole of said optical disk until said claws snap into position, wherein a magnetic member is attached to said center core which is attracted by a magnet provided on said turn table, and wherein said cylindrical wall of said center core is divided by said slits into a plurality of first wall portions each of which is formed with one of said claws, and a plurality of second wall portions each of which is formed with said stopper ledge, said first and second wall portions being alternately arranged.

The examiner relies on the following references:

Ogusu	4,802,158	Jan. 31, 1989

Kikuchi	4,944,982	July 31, 1990
Azuma[2] (Japanese Kokai)	1-107388	Apr. 25, 1989

Claim 1 stands rejected under 35 U.S.C. § 103 as unpatentable over Kikuchi and Azuma. Claims 5, 10 and 11 stand rejected under 35 U.S.C. § 103 as unpatentable over Kikuchi and Ogusu.[3]

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the briefs[4] and the answer for the details thereof.

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[2] Our understanding of this reference is based on an English translation thereof prepared by the United States Patent and Trademark Office. A copy of that translation is attached hereto.

[3] The final rejection of claims 5, 10 and 11 under 35 U.S.C. 102 has been withdrawn by the examiner and forms no part of the appeal herein.

[4] Appellants filed an appeal brief on October 27, 1994. We will refer to this appeal brief as simply the brief. Appellants filed a reply appeal brief on March 22, 1995. We will refer to this reply appeal brief as the reply brief. The Examiner stated in the Examiner's letter mailed April 3, 1995 that the reply brief has been entered and considered but no further response by the Examiner is deemed necessary.

OPINION

After a careful review of the evidence before us, we agree with the Examiner that claim 1 is properly rejected under 35 U.S.C. § 103. Thus, we will sustain the rejection of this claim but we will reverse the rejection of the remaining claims on appeal for the reasons set forth ***infra***.

Turning first to the rejection of claim 1 under 35 U.S.C. § 103, Appellants argue on page 8 of the brief that the combination of Kikuchi and Azuma do not render obvious claim 1, which has claws formed in the wall portion which project from said outside peripheral surface of said cylindrical wall and wherein a plurality of slits formed in the cylindrical wall render the first wall portion flexible so that the first wall portion is elastically displaced radially inwardly to a deformed position to allow the center core to be attached to said optical disk. Appellants further state that Kikuchi and Azuma cannot be combined to render claim 1 obvious.

Turning to Kikuchi, we find that Kikuchi teaches an optical recording medium comprising an optical disk which has a

center hole (See Figure 7 and column 5, lines 47-53) and center core (See Figure 5) having all of the limitations as recited in Appellants' claim 1 except for "claws formed in said wall portion

which project from said outside peripheral surface of said cylindrical wall and which engage an upper surface of said optical disc so as to clamp said optical disk between said stopper ledge and said claws." In particular, we find that Kikuchi teaches a center core, shown as a hub 50 in Figure 5, which fits into said center hole of said optical disk. We find that Kikuchi teaches a center core having a bottom disk-portion (the portion of flange 52 that supports boss 51 shown in Figure 5) a cylindrical wall (shown as outer wall 55 in Figure 5) extending from the bottom disk-portion and a stopper ledge (shown as the portion of flange 52 that does not support boss 51 in Figure 5) projecting outwardly from an outside peripheral surface of said cylindrical wall and abutting on a lower surface of the optical disk as set forth in Appellants' claim 1. Furthermore, we find that Kikuchi teaches in Figure 5 and column 5, lines 26 and 27, a plurality of slits 59 formed in the cylindrical wall as recited in Appellants' claim 1.

As pointed out above, Kikuchi fails to teach claws which engage an upper surface of the optical disk. Kikuchi teaches protrusions 56 for engaging the optical disk into proper position. Appellants argue on page 1 of the reply brief that the Kikuchi protrusions 56 do not engage the upper surface of the optical disk, but instead engage the cylindrical opening in the center of the disk. We agree. However, the Examiner did not rely upon Kikuchi solely but relies on the combination of Kikuchi and Azuma.

In figures (a) and (c), Azuma teaches claws 10 which engage an upper surface of the optical disk. The Examiner argues that it would have been obvious to those skilled in the art to modify the Kikuchi center core 50 shown in Figure 5 by providing the Azuma claw 10 and spring 13 in the Kikuchi center core 50 at a position above the Kikuchi protrusion 56 as recited in Appellants' claim 1.

The Appellants argue on page 2 of the reply brief that it is only obvious in view of Appellants' teachings that Kikuchi could be combined with Azuma. Thus, the Appellants have raised the question whether it is proper to combine Kikuchi and Azuma.

The Federal Circuit states that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." ***In re Fritch***, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992), ***citing In re Gordon***, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). The Federal Circuit reasons in ***Para-Ordnance Mfg. Inc. v. SGS Importers Int'l Inc.***, 73 F.3d 1085, 1088-89, 37 USPQ2d 1237, 1239-40 (Fed. Cir. 1995), ***cert. denied***, 117 S.Ct. 80 (1996), that for the determination of obviousness, the court must answer whether one of ordinary skill in the art who sets out to solve the problem and who had before him in his workshop the prior art, would have been reasonably expected to use the solution that is claimed by the Appellants. Furthermore, the test of obviousness is not whether features of a secondary reference may be bodily incorporated into the primary reference's structure, nor whether the claimed invention is expressly suggested in any one or all of the references; rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. ***See In re Keller***, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

Upon reviewing Azuma carefully, we find that Azuma teaches on page 5 that the claws hold the optical disk in three locations and offer a disk adapter device that is able to secure an optical disk firmly. By such a mechanically stable arrangement, the disk adapter device prevents surface vibration and waving and thereby prevents resonance. We find that Azuma suggests to those skilled in the art that the Azuma claw and spring arrangement holds the optical disk more firmly by pressing the optical disk in a vertical direction to the stopper ledge.

Thus, from these teachings, those skilled in the art would have been reasonably expected to use the Azuma solution by adding the claw and spring holding arrangement to the Kikuchi center core shown in Figure 5. Therefore, in view of this teaching of the desirability of the modification that would have provided a mechanically stable arrangement that prevents resonance, surface vibrations and waving, we find that the Kikuchi and Azuma combination would have been suggested by the prior art reference, Azuma.

Finally, Appellants argue on page 2 of the reply brief that the Kikuchi and Azuma combination fails to teach a plurality of slits formed in the cylindrical wall for defining a first wall

portion and for rendering said first wall portion flexible so that the first wall portion is elastically displaced radially inward to a deformed position to allow the center core to be attached to said optical disk by passing the cylindrical wall and the claws through the center hole of the optical disk until the claws snap into position. As pointed out above, Kikuchi teaches a plurality of slits 59 in Figure 5 for rendering the first wall portion (the portion of the wall having 57 face) flexible so that the first wall portion is elastically displaced radially inward to a deformed position to allow the center core to attach to the

optical disk by passing the cylindrical wall through the center hole of the optical disk. Furthermore, we note that the modified Kikuchi center core having the Azuma claws would allow the claws via the spring displacement to pass through the center hole of the optical disk until the optical disk passes by and then the claw would snap into place. Thus, we find that the Kikuchi and Azuma combination teaches all of the limitations of the claims as argued by Appellants and there are suggestions in the prior art that would have led those skilled in the art to combine the teachings of Kikuchi and Azuma. Therefore, we will sustain the Examiner's rejection of claim 1.

With regard to claims 5, 10 and 11, the examiner relies on Kikuchi in view of Ogusu,[5] applying Kikuchi as above and adding Ogusu for the teaching of a disk cartridge device that includes a cartridge with a shutter, window, central hole and a pivoting lid. Appellants do not argue the claim limitations relating to the cartridge structure.

Independent claim 5 recites "claws engaging the top surface of said optical disk and being normally held in an unstressed normal position in which said claws prevent said center core from being extracted from said optical disk. . . ." As pointed out supra, Kikuchi's protrusions 56 do not engage the top surface of the optical disk. Furthermore, Ogusu fails to provide for the deficiencies noted regarding Kikuchi. Therefore, we will not sustain the rejection of claims 5, 10 and 11 under 35 U.S.C. § 103.

In view of the foregoing, the decision of the Examiner rejecting claim 1 under 35 U.S.C. § 103 is affirmed; however, the

[5] We note, with curiosity, that the examiner, for whatever reason, has dropped Azuma, employed in the rejection of claim 1 to teach a claw and stopper ledge arrangement for clamping a disk, in this rejection.

decision of the Examiner rejecting claims 5, 10 and 11 under 35 U.S.C. § 103 is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

KENNETH W. HAIRSTON Administrative Patent Judge	)	
	)	BOARD OF PATENT
	)	APPEALS AND
	)	INTERFERENCES
MICHAEL R. FLEMING Administrative Patent Judge	)	

KRASS, ***Administrative Patent Judge***, Dissenting-in-Part:

While I agree that the rejection of claims 5, 10 and 11 under 35 U.S.C. § 103 should be reversed for the reasons set forth by the majority, I would also reverse the rejection of claim 1 under 35 U.S.C. § 103.

Claim 1 requires, ***inter alia***, "claws formed in said wall portion which project from said outside peripheral surface of said cylindrical wall and which engage an upper surface of said optical disc so as to clamp said optical disk between said stopper ledge and said claws."

The examiner identifies protrusions 56 in Figure 5 of Kikuchi as the claimed "claws." However, as the majority and the examiner recognize, the protrusions 56 of Kikuchi do not engage an upper surface of the optical disk. These protrusions aid in gradually and firmly pushing the hub into the circular hole of the disk by application of pressure [column 6, lines 51-52 of Kikuchi] and hold the disk to the hub, or vice versa, but nowhere in Kikuchi is there any suggestion of clamping the disk between a stopper ledge and claws, as required by instant claim 1.

The examiner turns to Azuma for the teaching of a claw 10 snapped into position over an upper disk surface and concludes that it would have been obvious to "provide the hub of Kikuchi with a snap action type hub as taught by Azuma" because "the resilient snap action provides a secure fit while also allowing for easy removal of the hub" [answer-pages 3-4].

The "claw" 10 of Azuma is actually a spring loaded chucking mechanism that fits over the top surface of the disk while protruding part 9 acts as a stopper ledge for effectively clamping the disk. But, in any event, neither element 56 of Kikuchi nor element 10 of Azuma is "formed in said wall portion" and "project[ed] from said outside peripheral surface of said cylindrical wall" in such a manner as to render "said first wall portion flexible so that said first wall portion is elastically displaced radially inwards to a deformed position to allow said center core to be attached to said optical disk . . . ," as claimed.

The majority appears to take the teachings of Azuma relating to the merits of clamping a disk [page 5 of the translation] by supporting its top surface as well as its bottom

surface, i.e., to secure the disk firmly, mechanical stability, etc., and applies the spring loaded mechanism shown in Figure 1(c) of Azuma to Kikuchi in order to obtain the benefits of Azuma. However, even if, ***arguendo***, the artisan would have been led to modify Kikuchi in this manner and even if, ***arguendo***, the artisan would have found it obvious to replace the three protrusions 56 of Kikuchi with the spring loaded mechanism of Azuma, it is my opinion that the claimed subject matter would still not be reached.

Claim 1 calls for a cylindrical wall extending from the bottom disk-shaped portion of the center core and a "stopper ledge" projecting outwardly from an outside peripheral surface of the wall and abutting on a lower surface of the optical disk. If the spring-loaded mechanism of Azuma were to be incorporated in Kikuchi, the bottom of the disk would rest on the bottom portion 9 of the spring-loaded mechanism in which case, this bottom portion 9 would have to be the claimed "stopper ledge." While that interpretation might be reasonable, the last part of the claim requires that the plurality of first wall portions each be formed with one of the claws and that the plurality of second

wall portions is each formed with the stopper ledge, the first and second wall portions being alternately arranged. Of course, the claim language does not preclude each wall portion from having both a claw and a stopper ledge and, if the spring-loaded mechanism of Azuma were applied in place of protrusions 56 in Kikuchi, then the walls of Kikuchi which are formed by these

protrusions would have both a claw [element 10 of Azuma] and a stopper ledge [element 9 of Azuma]. The problem, as I see it, is that even as modified by the spring-loaded mechanism of Azuma, each of the three boss walls 55, separated by slits and walls 58 having protrusions 56, would have neither a claw nor a stopper ledge. If the walls 58 having protrusions 56 in Kikuchi are considered the claimed "first wall portions each of which is formed with one of said claws," then walls 55 must be the claimed "second wall portions." However, the claim requires these "second wall portions" to be formed "with said stopper ledge," and they would not be in the modified version of Kikuchi. If we consider walls 58 to be the second wall portions, with walls 55 being the "first wall portions," then there are no claws on the "first wall portion" in the modified version of Kikuchi. The problem comes about because only one of the first and second wall

portions in the modified version of Kikuchi has both claw and stopper ledge and the other of the first and second wall portions has neither.

If one were to identify flange 52 of Kikuchi as the stopper ledge which appears to be part of, or joined to, each of the first and second wall portions in Kikuchi, as the majority does, then one might argue, as the majority apparently does, that now the second wall portions 55 (as well as the first wall portions 58) in the modified version of Kikuchi are formed with a stopper ledge while the first wall portions 58 are formed with claws. The problem with this approach is that if Kikuchi is to be modified by employing the spring-loaded mechanism of Azuma, then the stopper ledge would be element 9 because this is the portion on which the bottom surface of the disk will lie. If flange 52 of Kikuchi is to be the stopper ledge, as identified by the majority, then the bottom of the disk must lie thereon and element 9 of the spring-loaded mechanism of Azuma may not be employed. But, if element 9 is not to be employed, one is left with the situation that Kikuchi is to be modified but only by using the top portion 10 of the spring-loaded mechanism of Azuma. However, without the bottom portion 9, the entire spring-loaded

mechanism of Azuma would be inoperable and one may not dissect a reference taking only so much of that reference as is needed to anticipate or make obvious claimed subject matter while completely ignoring the remainder of the teachings of that reference.

Accordingly, in my view, even if one were to modify Kikuchi by using the teachings of Azuma, the subject matter of instant claim 1 would still not have been obvious under 35 U.S.C. § 103.

Since the applied references, alone or in combination, do not suggest the structure of the center core, as claimed, it appears to me that both the examiner's rationale for combining the spring-loaded chucking mechanism of Azuma with the hub of Kikuchi in such a manner as to result in the claimed subject matter and the majority's finding of obviousness to do so are based on appellants' own disclosure rather than on anything taught or suggested by the applied references. The improper use of hindsight may not be a basis for a conclusion of obviousness under 35 U.S.C. § 103.

I would reverse the examiner's decision.

ERROL A. KRASS	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES

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